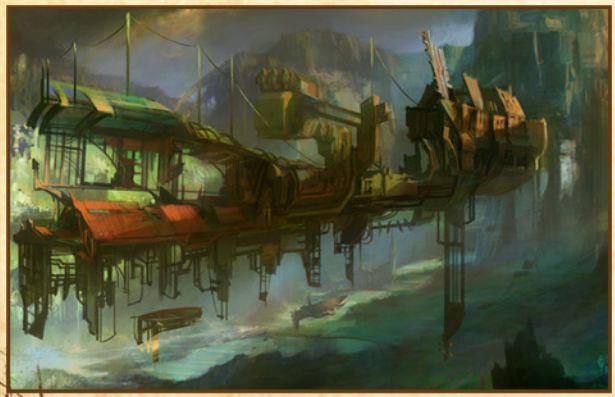
CHEE MING WONG'S

PAINTING STEAMPUNK ENVIRONMENTS



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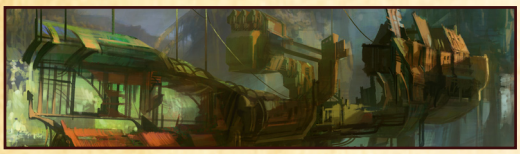
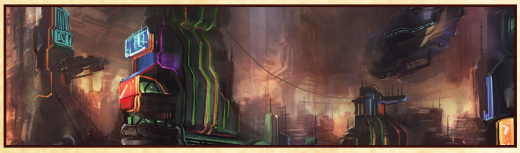
Chapter 1
Page 04 | D'Automobilis

Chapter 2
Page 16 | D'Vinci



Chapter 3
Page 28 | D'Metronomus

Chapter 4
Page 38 | Diesel



Chapter 5
Page 48 | D'Machinis

Being able to denote and show these material differences eg. leather, polished wood, exposed steel, riveted boilers - using just pure values can often be a (welcome) challenge and offer a high value concept from which to derive other designs.

Values: (**Fig.06**) The next challenge is to transform a line drawing into a semi 3Dimensional image using just pure greyscale values. Popular car magazines can help with regards to lighting approaches - and quite simplistically a top down lighting situation is often sufficient to provide some believability in a side profile view.

Additional design elements: To continue the aspect of believability, the designer can add further designed elements such as a exposed steering system.

Touchup: (**Fig.07**). Once the general lighting issues are sorted, the final aspect to consider is improving readability, bounced lighting and material texture and feel. This image, should

Fig.06

Fig.07

Fig.11

townhouses such as a Romanesque doorway, window and triple storied flat. Extrapolating this, one can outline the overall form and accentuate this further to create your own unique steampunk townhouses at will.

Steampunk D'Automobilis Transit Centre - Digi Ink & Wash

Collage: In this last segment of the tour, we will look at a quick digi ink and wash approach towards our onsite sketching of various steampunk buildings. (**Fig.11**) By amalgamating the various sketches and unifying the various vanishing points into an overall whole, this can provide a rapid and satisfying collage of sketchwork provided as a joint sketch collage.

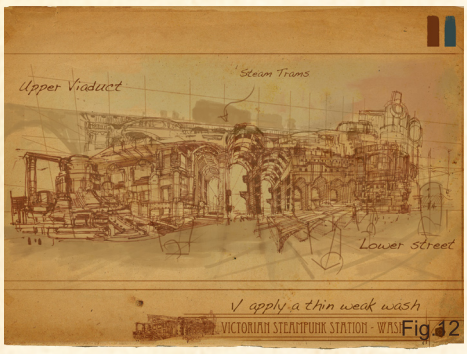


Fig.12

Fig.13

Fig.14

As an accompaniment, various photograph depictions from olde markethalls and rail stations in Victorian London are researched to provide a believable reference point.

DigiWash: (**Fig.12**) The first instance upon completion of the sketch collage is to apply a weak unifying wash. This allows one to explore various shapes and structures with similar values and distances from the viewer. Areas and foreground objects that may have potential core shadows can also be rapidly marked out (**Fig.13**).

Background Plate: (**Fig.14**) For this particular image, we can now work in a methodical stepwise fashion. Starting from back to front. We

Painting Steampunk Environments: Chapter 2 - D'Vinci

Software Used: Photoshop

D'Tour - Part II

Welcome to these series of workshops, encompassing the Five Ages of SteamPunk within the alternate Realm of "Steam PanGloria Globus the 3rd" (SteamWorld for short).

Over the next few chapters, our tour will encompass different eras and themes within the five interconnected districts of **SteamWorld** (D'Automobilis, D'Vinci, D'Metronomus, Diesel & D'Inginis) and administered by the central transit & engineering hub of the Guild of D'Machinis.

Previously, the first leg of the tour started within the **Victorian Era of D'Automobilis** - whereby, we had the opportunity to briefly discover how transport became the mainstream thrust of the Brittanic Victorians, starting with the steam engine. Our tour also looked into designing and developing a steampunk transport and environment using a themed period as a starting basis.

Fig.01

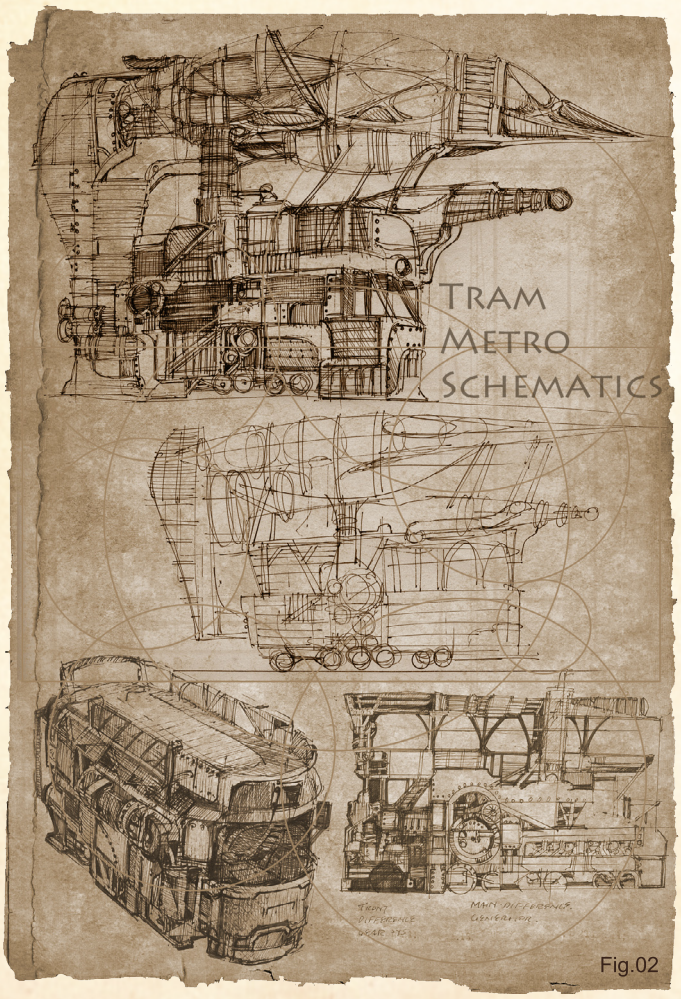


Fig.02

D'Vinci: Essence of Renaissance/Middle Aged Steampunk

Returning to the **Transit Centre** whereby central public transportation is governed, we discover that the ***TramMetro*** responsible for our next leg of the journey, is still being retrofitted with the appropriate apparatus to enter and co-exist within the D'Vinci realm with sufficient stability.

In **Fig.01** the TramMetro is being retrofitted with D'Vincian equipment and Renaissance technology, vital for the safety of the various InterRealm travel whilst travellers adjourn to the nearby Cafe. The physical and **InterRealm** energies of each era are entirely unique, and thus require careful measurement, calibration and maintenance via the vast might of the engines of the central administrative hub of D'Machinis.

Thus, without the right outfitting and maintenance of the *TramMetros*, our tour may veer off course or even overshoot into the interRealms of the physical worlds, resulting in malfunctioning of the steampunk technology, or even worse - being marooned to a indeterminable existence. In **Fig.02** we can see the schematics for the Tram Metro, showing its various modes of deconstruction and retrofitting.

So, apologies dear ladies and kind sirs whilst we adjourn for tea in the nearby Transit Cafe to allow for the completion of the retrofitting. Meanwhile, one of our plein air artists has taken the opportunity to produce a rapid sketch for completion at a later juncture.

Fig.03

Journey to D'Vinci

Finally, our tour has taken off safely via the Transit Arch, towards the mountainous Village of D'Vinci.For it is here, that all the brilliant inventions of Astronomy, Mining, Sail Barges, Research into the Noble gasses and so forth were discovered and pioneered.

I forget to add that , on occasion strange elemental hazards of nature do visit this strange Village in the mountains. Such that, it is not often unusual to have both a beautiful verdant spring morn, followed by hail and snow at noon, that rapidly melts into a warm summer rain and ending with a perfect golden glaze of sundown. And sometimes all of the above in a flash.

Fig.04

We can see in **Fig.03** a value sketch of the approach to D'Vinci produced in sepia washes featuring the vast looming relic that both serves as a haven for D'Vinci engineers, powersource of its amazing technologies and natural abberation of its local weather and more unusual levi-stone properties

Tram Metro Retrofitting

During our short break within the Town of D'Vinci, one of the artists has just completed a painting comprising of the scene at the Tram Metro. Thus, we have time to share a brief dissection of the painting produced. In **Fig.04** we can see a plein air sketch of the TramMetro being worked up into a full painting

En Plein Air: French expression - *'In Open Air'* used to denote the study of light and shadow on location, a revolutionary artstyle utilized by 19th Century Realist to Impressionists. They believed that rather than rely of various formulas, one should trust your own eyes and paint from life, what you saw and perceived. Thus, for environmental and landscape artists, this practise of studying from life is fundamental in evolving and growing as a artist, and to paint with light.

With reference to the image, the painting can be distilled into a four part process:

- **Block In:** The initial image comprises of main tones and shapes worked into a plein-air sketch. Diffuse lighting and various bits of machinery are seen throughout the workfloor, and all the key features of the subject matter should be noted. A rapid 30-40 minute colour sketch such as this is sufficient (with additional linework/information such as that gleaned from the Tram Metro schematics – see **Fig.02**) to be worked up further in the studio.
- **Arrangement:** Once within a studio (or a quiet area to work) environment, the first step is to rearrange the various elements into a composition, that would both attract and appeal to the innate sensibilities of the viewer. The diffuse lighting is strengthened, to provide focal direction whilst still retaining the soft overall ambience. In addition, various objects within the scene can be grouped and arranged within a complementary manner.

- **Setting:** Sometimes to complete a painting, one needs to remove all foreground

objects to paint various elements in the background and to consolidate the design overall. In this aspect, various wheel & brake clamps are implemented onto the TM transport, and elements of a oil spillage can help gel the horizontal plane. Rail tracks are also implemented (featuring a middle track for electrical conduits in areas utilizing/ receiving electrical powersources.

• **Completion:** The painting is finalized with diffuse lighting and atmosphere, and various crates and cargo being loaded whilst bands of light and shadows are cast across the TM transport, to help provide contrast and relief, thus accentuating its overall form as it is retrofitted with technology suitable for its onward journey (**Fig.05**).

Fig.05

Visual Art Direction: In the development of the D'Vinci township, various options and approaches come to mind. As such, for sake of brevity we will cover 3 approaches towards building a believable fictional ecosystem by covering life in a Medieval Town, textural building materials and constructional methods, sketchwork and ending with a map view to help aid in its development. It is via these various steps that a richer visual asset for film, animation and games can be approached.

Village of D'Vinci - Creating your own Village

As a designer responsible for the InterRealms of Steamworld, often the various Realms grow and expand with linear progression of time. As such, there is a need to step in as Role of Town Architect/Builder and Manager.

Fig.06

Well, you are in luck. It just so happens that at this very Age, this very moment the townfolk of D'Vinci are in need of a new expansion in the allotment earmarked for expansion within the empty areas of the D'Vincian map. Various townbuilders and residents are in favour of a new sister township.
Thus, let us visit the Guild of Architects to help oversee the necessary ingredients of building a successful town.

D'Town Recipe

• **Ingredients:** Townhall, Village Square, Central Water Reservoir, General Goods store, Transport centre

• **Additional Ingredients:** Bakery, Tannery, Inn/Pub, Hopper, Blacksmith, Armoury
• **Resource Points:** Lumber Mill, Water Mill, Wind Mill, Ore mine + Refinery

• **Alternate Local transportation:** Airways, Waterways, Pneumatics.

Over at the local Guild of Architects, within the Department of Logistics and Accessways is local master mason/builder. He explains that the Main architect is away on travels at present and any help with the half finished plans would be much appreciated and ably executed by his team of assistants and master builders.

Using such a basis, one can approach the construction and development/layout of a city/ township as a living/breathing ecosystem rather than one or two unique art assets. As such, this will help the artist develop an integrated and functional living space, that can be especially useful for level design within games and augmented reality developments.

Visual Direction: Style & Materials

D'Vinci as a fictional blend of medieval/high Renaissance. As such, one approach is to perhaps look at existing architecture and re-imagine such time period within an alternative setting.

Starting with a look at rooftops, this often forgotten element of a township/city is the quintisential character of any medieval township as the overall forms and shapes seen from within and without, form the overall horizon and landscape when approaching a township. In **Fig.06** you can see a study of various rooftops at Trafalgar Square, London.

built purely from the hulls of ancient ships and wrecks (**Fig.12**).

In this instance, we can conveniently utilize the main hull of a small trading ship for the roofing of a Mill workshop, and construct it from steel, stone and recovered ship timbers. In addition, a small black iron reinforced forge is attached and thus, should be well built and ventilated away.

Lastly, let us incorporate all these elements into a simple town sketch down the main street (**Fig.13**). The view, thus includes a look out onto the various rooftops, ship hulled buildings and tall narrow townhouses, that can serve as a template for future paintings/compositions.

Aerial Views

Lastly, the best and simplest way towards building a city is perhaps by drawing a plain old map. Many successful and well loved stories, always involved a crude map and from whence, grand epic world building could begin and serve as a basis for lost treasure, high adventure, dark fantasy and epic greatness.

Fig.12

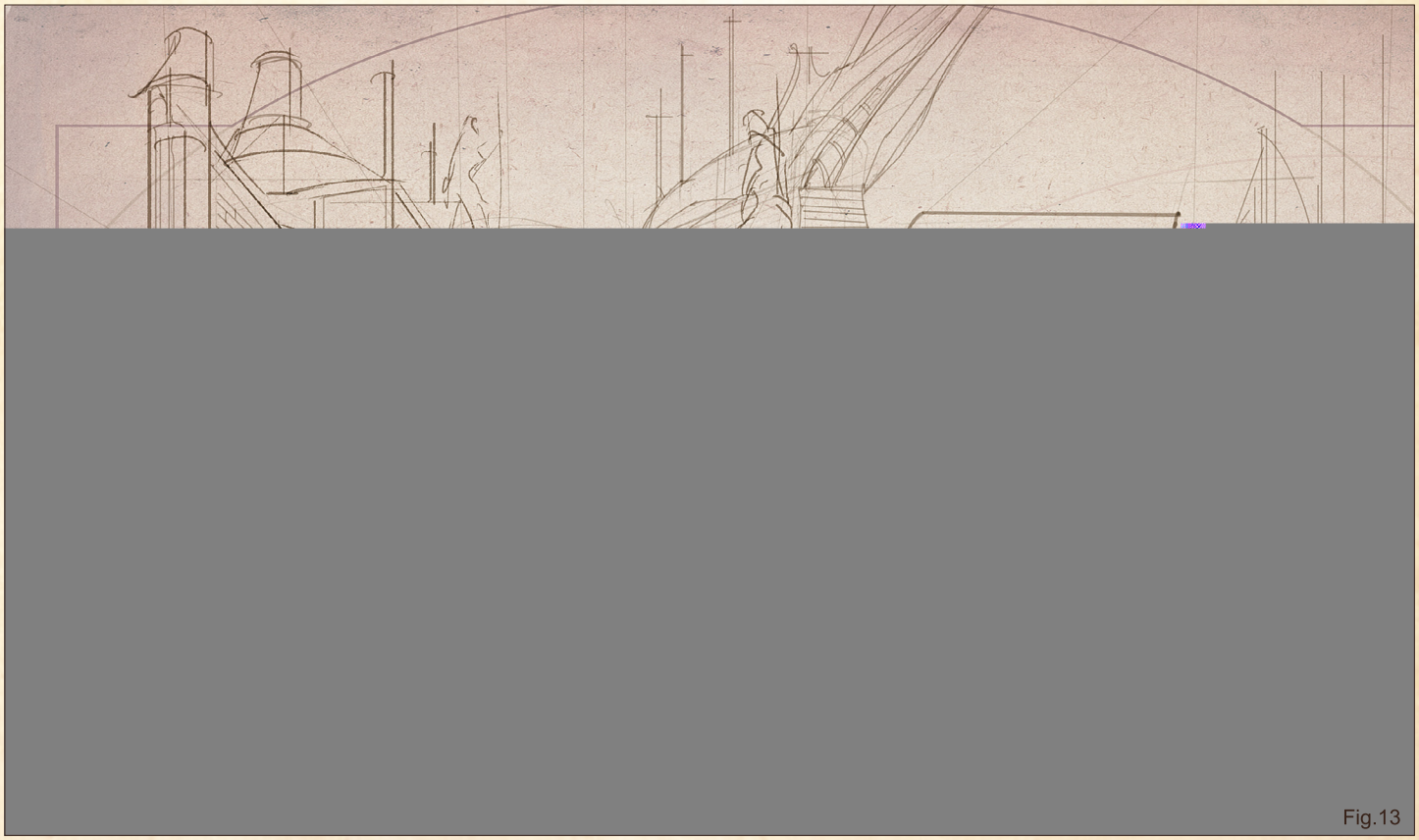


Fig.13

Chee Ming Wong

For more from this artist visit:

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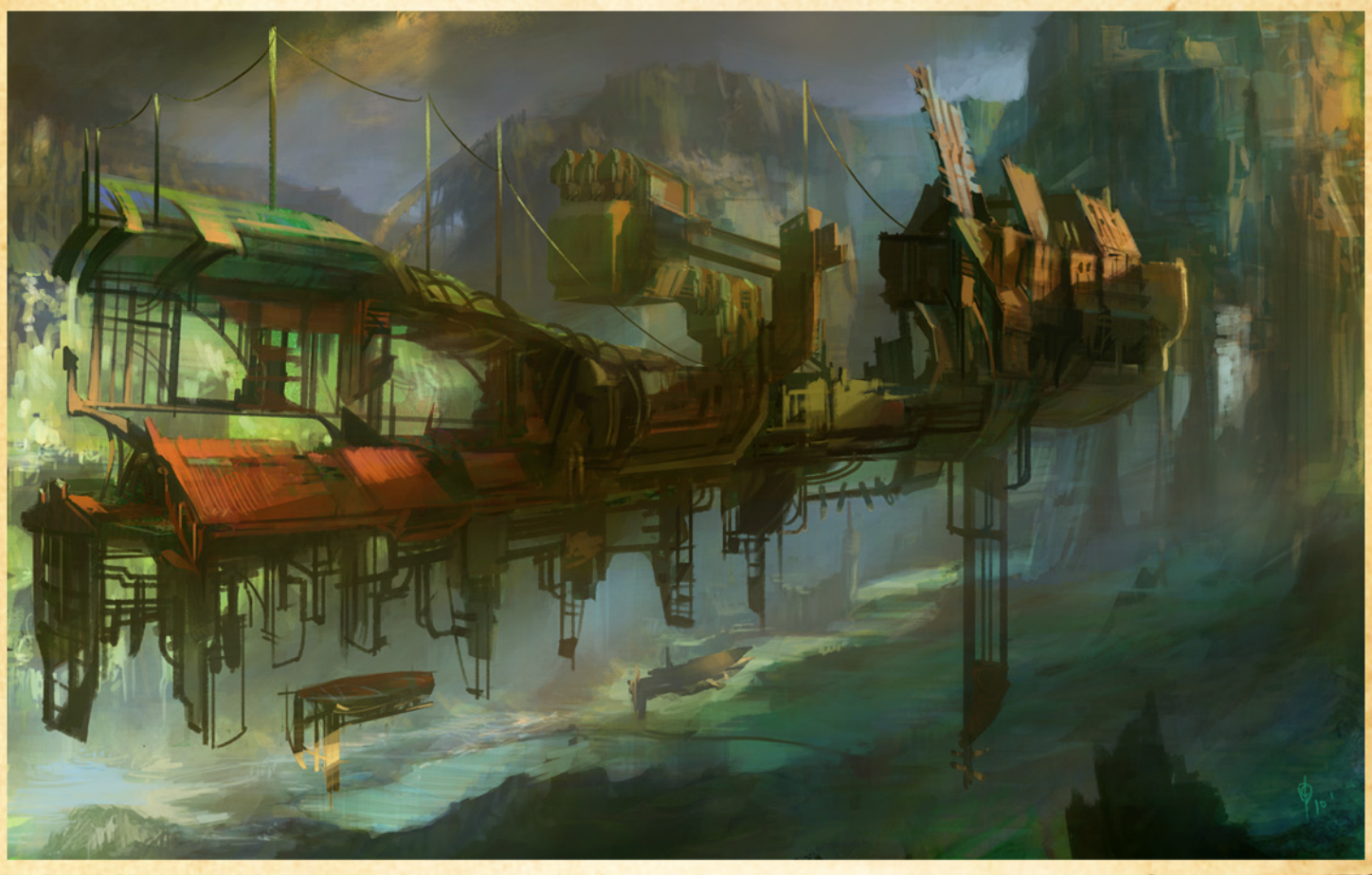
or contact them at:

chee@opusartz.com

Chapter 3



D'METRONOMUS

Painting Steampunk Environments: Chapter 3 - D'Metronomus

Software Used: Photoshop

D'Tour - Part III

Welcome to these series of workshops, encompassing the Five Ages of SteamPunk within the alternate Realm of "Steam PanGloria Globus the 3rd" (SteamWorld for short).

Our tour is now midway through the InterRealms and encompasses different eras and themes within the five interconnected districts of **SteamWorld** (D'Automobilis, D'Vinci, D'Metronomus, Diesel & D'Inginis) and administered by the central transit & engineering hub of the Guild of D'Machinis.

Previously, the first leg of the tour started within the **Victorian Era of D'Automobilis** - whereby, we had the opportunity to briefly discover how transport became the mainstream thrust of the Brittanic Victorians, starting with the steam engine. Our tour also looked into designing and developing steampunk transport and environments using a themed period as a starting point. Subsequently, the second aspect of the tour involved travel within the Medieval Era of D'Vinci of high renaissance architecture, places of worship and towering edifices of rock amidst a skeletal frame.

Let us leave our transport behind for now and continue the journey on foot. For it is thus, that the realm is better seen, felt, heard and appreciated with the artists eye the walk of the First Sone. This is experienced via the crossing of one of the vast expanses of the skybridges (an amalgamation of the five disciplines, that have fused together these constructs and the great sky port) into the Realm of D'Metronomus. For here, it is where the first Sones discovered its raw potential for artifice, and sought to fuse aether with the raw metals and ore mined within, to form the Five principles of Alchemical Mechanics (A'Mekhanos).

D'Metronomus: Essence of Fantasy Steampunk

The Realm of D'Metronomus is old.
By far the oldest of the Realms, it was once quiete desolate and derelict relative to the bustling ports of the SkyBridge.

Indeed, a soujourn deep towards the old quarter still reveals the raw energies that suggest vaguely the mysteries of how this Realm came to be. For you see, much of D'Metronomus failed to exist when it was first inhabited. That is, the vast inhabited ArcBridges and intricate weave of Levisones are said to have been literally sung into existence by the vast Guild of Sones.

(**Fig.01**)Legend foretells of the first Sone, an explorer known as D'mar Sonas who discovered the strange qualities of this isolated mineral rich land mass. Some experts predict when delving into the Legend that once there was a ancient sea in this region and over the millenia, periodic shifts in land plates and multiple land

Fig.01 - A traveller walks the road through the old quarter. It is autumn, and leaves of all colours red, yellow and green scatter in abundance amidst the aeons old functioning equipment powered by aether.

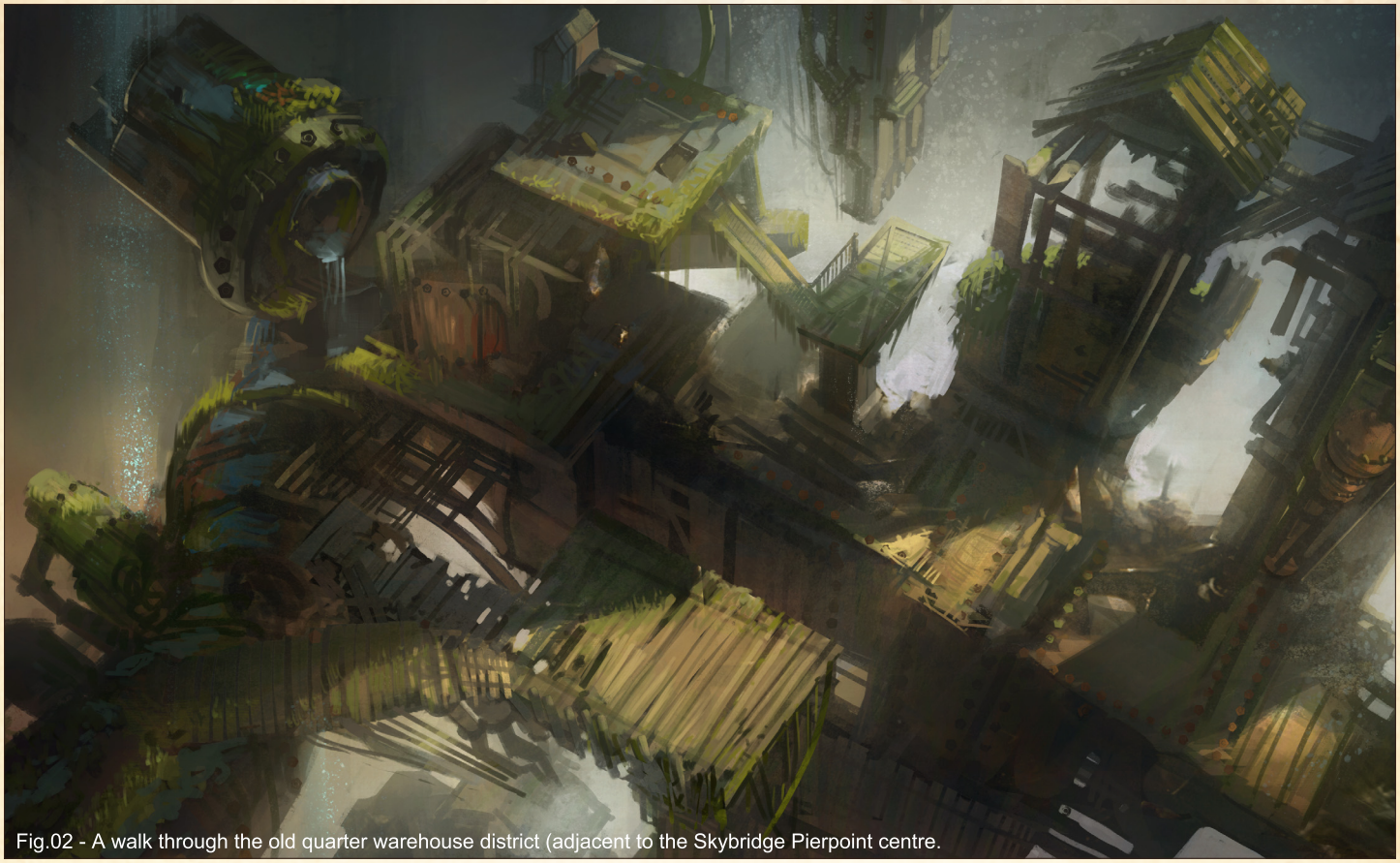


Fig.02 - A walk through the old quarter warehouse district (adjacent to the Skybridge Pierpoint centre.

quakes resulted in the draining of this ancient sea, resulting in the impossibly saw toothed land struts and bridges jutting out of the entire region.

Art Direction

For the art direction, a decision was made to implement an oriental twist to the steampunk genre. In part, this is reminiscent of the travels to Realms of the Bund, Shanghai - which combines the aesthetics of Art Deco west meets Oriental construction, materials and shapes.

In that regard, it also allows for a exploration of an overgrown, derelict aged process combined with strong graphic design visuals thus reflecting the eastern art styles of saturated bright colours.

Old Quarter

As one enters the Old Quarter of the Sones, of particular interest is the Old warehouse district.

For it is here, that in its heyday the first SkyBridge pierpoint was thus established, and provided trade and commerce in gears, ancient constructs, and barrels of raw refined aetherium to all the five realms. Whereas, over time the needs of the Realms have thus expanded and the great skyport and a gigantic construct of Seven ArcBridges form the gravity defying construct of the skyport (**Fig.02**). held together by the fusion of both Sone and Alchemical Mechanics, it is here that old and new technologies lead the way to new constructs, and possibly new Realms.

Nowadays, the raw aetherium has been mined to depletion and it is within the partially submerged Realm of the master pumps and gears of D'Mechanis that various caches of Aetherium may be located that allow for InterRealm maintenance, and construction of future constructs.

To SkyBridge Pierpoint

Finally, our journey takes us into a clearing from which we can take a short break for lunch and enjoy the view.

So, let us take the opportunity to review the first two sketches and deconstruct how our group of artists developed these paintings.

For this sketch (**Fig.03**), the composition and finish was approached as a Four stage process.

1. **Block in Large Forms:** - Key forms are blocked in with one value, whilst areas in relief (receiving direct light) apply their own singular value in contrast. Lastly, the background has a low contrast monochromic value approaching neutral grey
2. Perspective Guide & Focal Interest:
3. Colour Grade & Atmosphere:
4. Contrast & Details

Once the core elements are in place, the next aspect is to take the sketch into a fuller painting.

Moss & Lichen

Thus lighting, ambient light, bounced light and local set dressing eg. Moss & lichen, are applied on various elements of derelict equipment and

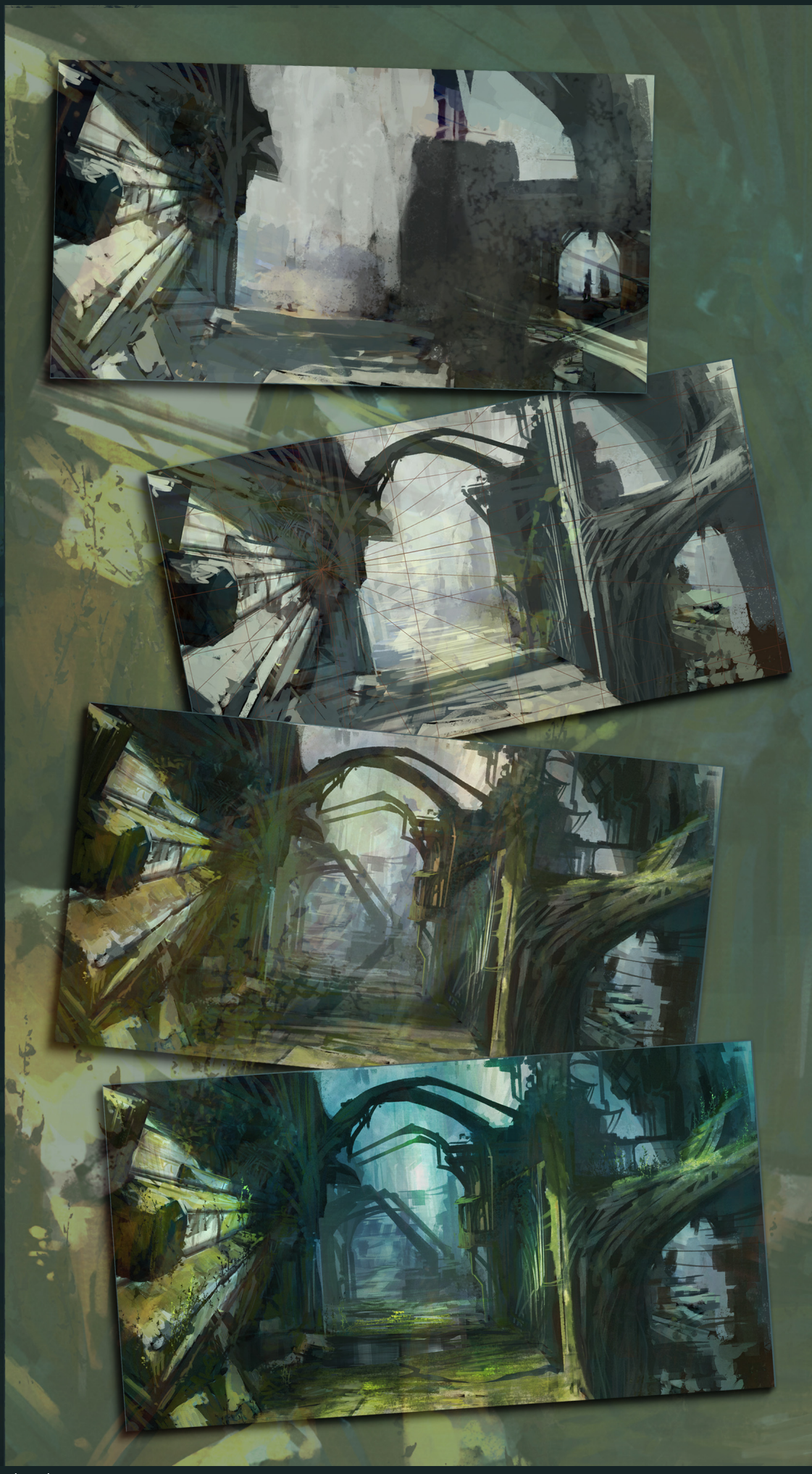


Fig.03 - Four part process to start an image in colour

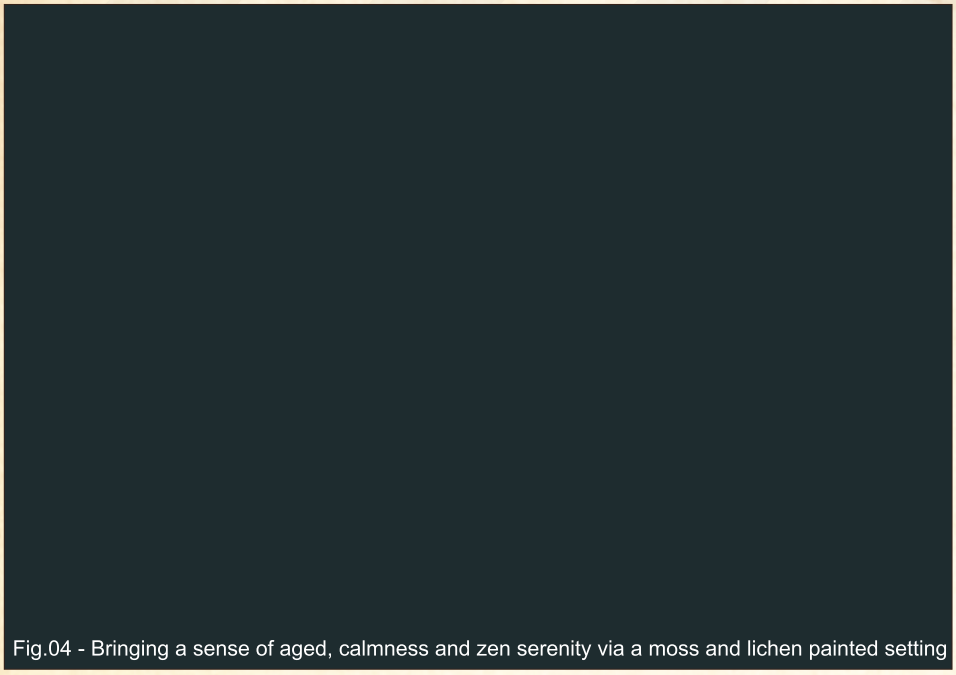


Fig.04 - Bringing a sense of aged, calmness and zen serenity via a moss and lichen painted setting

Fig.05 - Illustrated Lichen/moss

Fig.06

pipes that through sheer age, weathering and time tends to form semi-abstract shapes akin to naturalistic roots and tree branches(**Fig.04**). Certain machinery taken on a fossilised interlocked stony appearance akin to that of basal columns seen spectacularly within the Giant's Causeway (Antrim, N Ireland) or similar igneus rock formations of the Devil's mountain (Wyoming).

This aged effect has to be applied meticulously throughout the whole scene, and suffice to say a traipse within a rainforest featuring a mossy forest clime, is the best real-life reference for such a scene.

Moss and Lichen are an interesting pair (**Fig.05**). They are a composite of a fungus and a photosynthetic partner (green algae or cyano-bacteria). Lichen come in all shades of greyish blue-green, to yellow-green - and derive its colour in part from its enslaved photobiont - of which there are over 13,500 species! In terms of shapes they can be leafy, crusty or flaky, branched, powdery or gelatinous and are extremely hardy, being often found living in extremes of weather conditions.

In contrast, moss are soft small plants.They germinate as spores sexually in the presence of water. Often found in colonies, they prefer the damp and low light conditions. Aesthetically, moss is cultivated to recreate forest carpet scenes and is said to bring a feeling of zen calmness and peacefulness, especially appreciated within Japanese moss gardens. In terms of art, these form brilliant saturated hues of vivid greens and viridians, and are suited in depicting rich damp forest scenes. (**Fig.06**)

Old Quarter Warehouse

To carry this theme on further, we choose a top down view overlooking the Old Quarter Warehouse.

In this instance, we try a different approach to painting. The importance is to establish **tonal contrast** between various shapes, and allow the various abstractions to appear accordingly. Due to the loose manner of which these kind of paintings can progress, it is vital to have a back story or designed element prepared beforehand so as to steer the end result into the direction of painting required. (**Fig.07**)

The advantage of this approach is the images tend to have a richer, more vibrant end result. The offset of this is that, as your own art direction, artistic execution and innate painting aesthetic offer various options and possibilities,

Fig.07 - Building an old Sky Bridge

Subsequently, the task now involves rejoining all these disparate elements into a more cohesive whole(**Fig.13**). In addition, each block element should relate one with the other, so as to visually appeal towards the viewer as to its innate purpose and function.

In addition, using the perspective guide can be used as subtle visual guide for the viewer via the subtle use of colour temperature contrasts and shifts.(**Fig.14**)

In the perspective guide comparison, as shown above, various objects that receded towards the vanishing point form positive or negative shapes; some are placed utilizing the guidelines of the golden ratio, whilst the rest according to various nexus points along the 3 point perspective grid.

Lastly, the final image can be colour graded and focal interests added accordingly to desired finish and stylization. It is often best to leave the visual effect manipulations towards the end, thus allowing the core underlying structure to remain unchanged, should at a future point such changes become necessary.(**Fig.15**)

As a final design element, interconnecting pipings and vents are added alongside the whole Skypier, to reflect the mechanical steampunk nature of this large construct.

Thus with that, our daytrip of the mechanical realms of D'Metronomus comes to an end, and we shall reconvene at the local transit centre.

Fig.13 - Lighting and basic colourgrade applied

End of D'Metronomus Tour

Welcome back to the old world SkyPort of the D'Metronomus transit centre. Our tour has taken a look at the Old quarter, and learnt about the history of the Sones and subsequent visual storytelling in the development of visual world building and development of a rich visual vocabulary via development of a city as a whole. If you would any further information, advice or additional reading, please find out more below, or contact us at **workshops@opusartz.com**

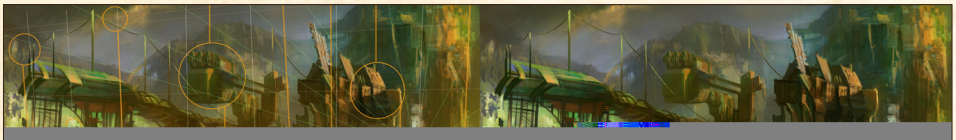


Fig.14 - Perspective guide as a visual guide

For our next tour, we will abandon our retrofitted TramMetro in exchange for the DeepCable express which wil take us through the partially submerged diesel-powered Realms of D'Inginis.

Ref.01

Ref.02

circle) - these linear shapes help anchor the main super structure towards the ground plane and thus reflect the need for solid, believable foundations. (**Ref.01**)

In terms of style, it is particularly useful to observe first hand an industrial complex (if possible). Here, we depict the "inside out building" of the Lloyds' building at One Lime Street, London as a suitable primer to depict the strong diesel punk theme of this workshop. Note, the use of parallel shapes, piping and reflectivity of its surface material relative towards the ambient (blue sky) surrounding. The ability to depict such similar shapes in various lighting conditions will greatly aid in the depiction of a dramatic steampunk artworks. (**Ref.02**)

Lastly, a warm pinkish atmosphere is added to the overall scene to capture the lasting rays of twilight and thus soften various midground shapes, and unify the background overall. (**Fig.07**)

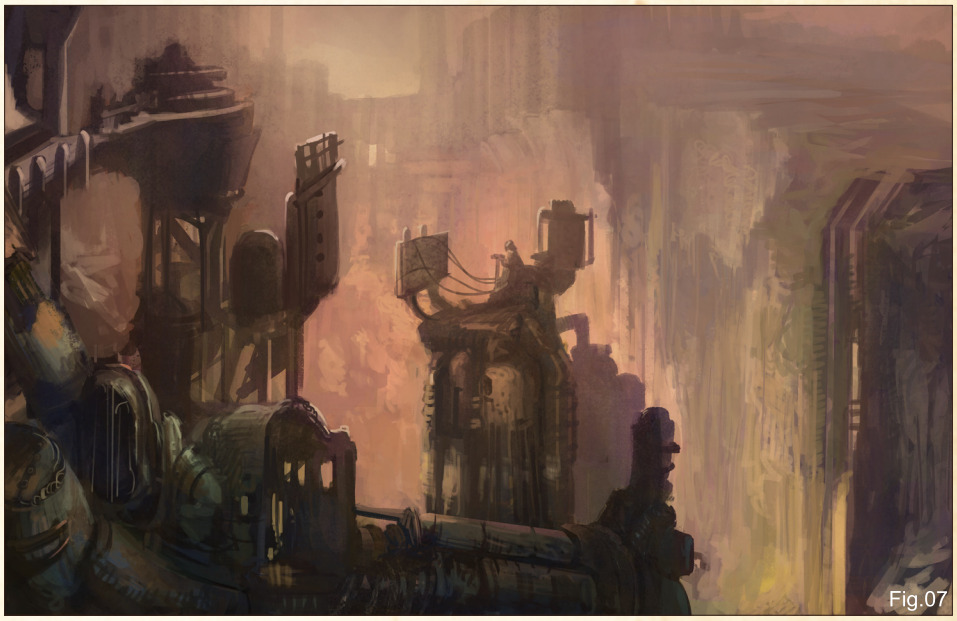


Fig.07

Up-lighting

Uplighting can often be used to increase the dramatic effect of a low light scene. This effect is often prominently use within theatrical or museum displays, upon listed historical buildings and deco styled monuments & buildings. (**Fig.08**)

Fig.08

However to denote nightime scenes, one needs to be particularly observant of local lighting. Notice how strongly various forms have a strong edge, with saturated bold tones and forms. In addition, objects in the distance tend to fade rapidly into black which is quite a contrast to phased fall off gradient in daytime. (**Ref.03**)

Ref.03

The Engine Room

1 Preliminary BlockIn

Having traversed towards the edge of the chasm, we espy the hybrid DeepCable express hidden within. Utilizing this mass transport we take the 5 mile deep journey into the heart of the engineering marvel of the Steamworld. Powered by a massive set of diesel powered levers, pistons and flywheels - it is here that sufficient heat and power can be generated to distil the aetheric powersource that provides free lighting, heat and energy for portable and general usage throughout the SteamWorld. (**Fig.09**)

Fig.09

Fig.10

To capture the look and feel of the massive engines herein, let us start by preparing a fresh canvas and block in all the main primairy shapes using large broad strokes via a simple chalk brush. (**Fig.10**)

The next step is to provide immediate focal detail. In this instance, we depict a massive angled elevator used to ferry large tunnel boring machines and supplies into the heart of this realm. Subsequently, we help unify the overall image with elements of lost edges and grain to provide a better overall read of the composition. (**Fig.11**)

2 Detailer

This next step is a more formalized aspect of blocking in forms and designing elements

Fig.11

so they fit both perspective, proportions and communicate effectively as a solid set of objects to the viewer (**Fig.12**). In addition, surface materials are provided with the appropriate treatment - eg. such as providing reflective mirror-like surface materials for smooth metallic surfaces. (**Fig.13**)

3 ColourGrade - Detailing

Once the formalized aspect of firming up the details are complete, the next aspect is to provide a color grade for all the objects and scene.

Firstly, the composition is skewed slightly towards a hazy tan yellow feel to provide a colored monochromic base. This is followed up further with the addition of localised reddish

Fig.12

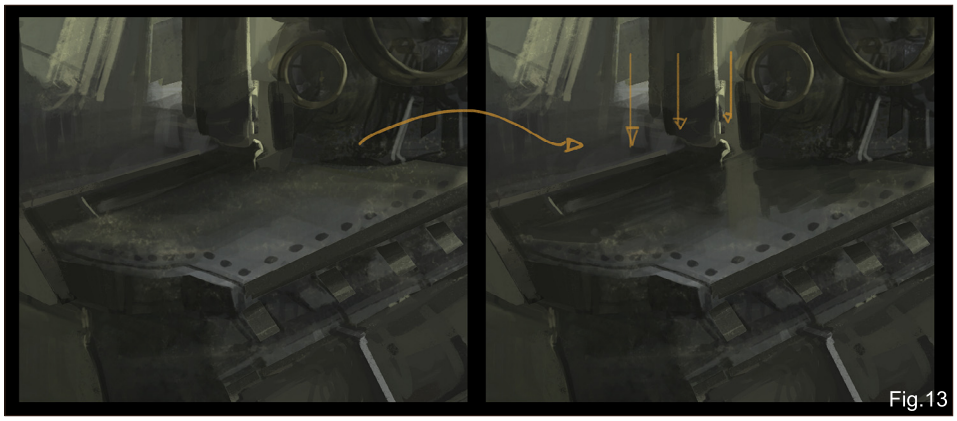


Fig.13

Fig.14

hues and complimentary dark greens (to denote different surface materials). (**Fig.14 – 15**)

Lastly, localised uplighting and reflected surfaces are rendered accordingly with small minor tweaks to represent the hot humid atmosphere of being enclosed within a furnace-like ambience. (**Fig.16**)

The Flood

Lastly, we will depict how to convert an existing image towards a more flooded feel, by literally flooding it. Firstly, let us briefly discuss our mode of railed transport that would allow for such an undertaking.

In essence, a dual mode hybrid that is a cross between a tram and a submersible would be required. As such, it is simply a straightforward case of designing a plain bulkhead in the initial instance, without any additional distinguishing forms. Central to this, is what I'd liken to a horizontal waistline that denotes a seperation between the lower ballast/cargo of such a transport, and the upper division that would safely encompass our artist explorers.

Chapter 5

D'MACHINIS

Painting Steampunk Environments: Chapter 5 - D'Machinis

Software Used: Photoshop

Realm of the Diesel Punk Engineers

Welcome to this series of workshops, encompassing the Five Ages of Steampunk within the alternate Realm of "Steam PanGloria Globus the 3rd" (SteamWorld for short).

We have now reached the final part of our tour of the InterRealms, which has encompassed different eras and themes within the five interconnected districts of **SteamWorld** (D'Automobilis, D'Vinci, D'Metronomus, Diesel & D'Inginis).

The first leg of the tour started within the **Victorian Era of D'Automobilis**, where we had the opportunity to briefly discover how transport became the mainstream thrust of the Brittanic Victorians, starting with the steam engine. We also looked into designing and developing a steampunk transport and environment using a themed period as a starting basis.

The second part of the tour involved travel within the **Medieval Era of D'Vinci**; an era of high renaissance architecture, places of worship and towering edifices of rock amidst a skeletal frame.

Within the **clockwork fantasy** of the third realm **D'Metronomus**, our intrepid explorers undertook a historic tour within the oldest heart of the inter-realms while an appreciation of the moss-covered texturing of various elements was shared.

And in the fourth Realm, we travelled to the deep underwater machine world of **D'Inginis Diesalis**, which represented the tireless powerhouse that generated steam and aether for all.

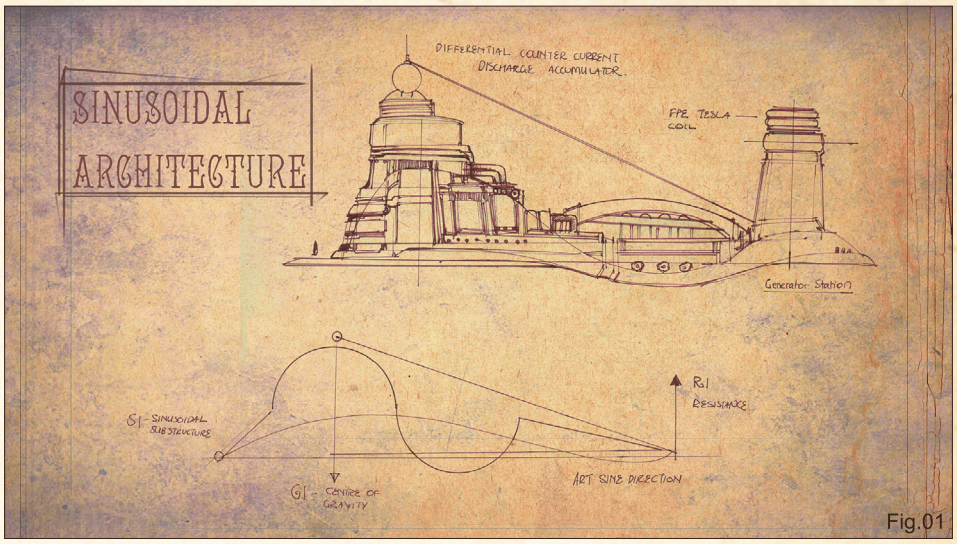


Fig.01

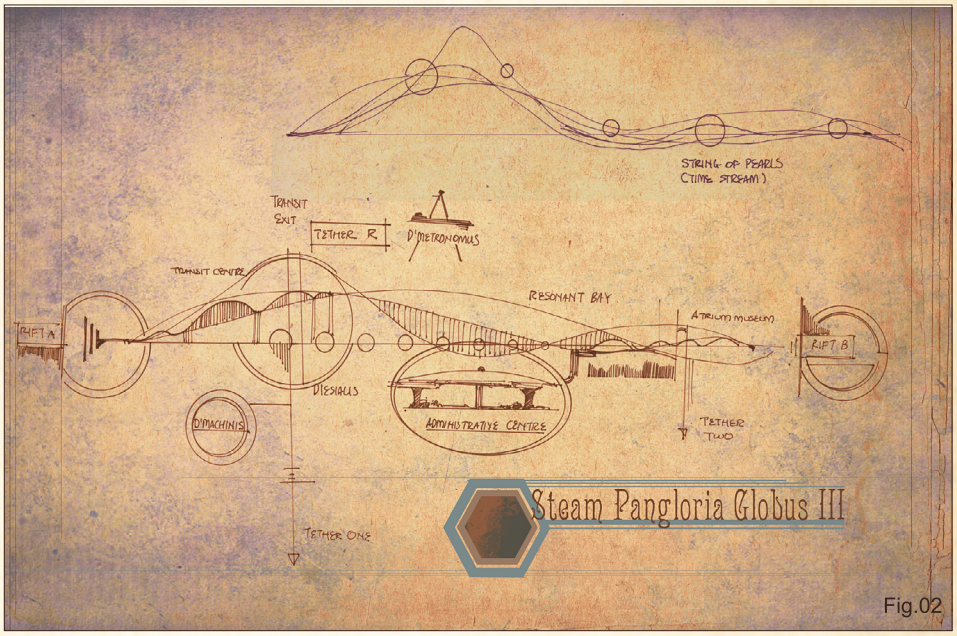


Fig.02

The Guild of D'Machinis

Now that we have travelled the five elements and time zones of the SteamWorld, perhaps it is best if we sit back and appreciate the wonders of the telegraphic modern hubris of the D'Machinis metropolis. For underneath a massive timebridge supporting all five interlocking cities and realms, there lies the D'Machinis administrative centre - providing new extensions to new Steampunk exhibits and allowing sub-genres to grow. This timebridge spans various cracks in space-time, which are barely noticeable within perceived realities.

Unfettered by the various aetheric limitations of the various Realms, denizens of D'Machinis employ transports of advanced steam-powered engineering allowing for vertical and horizontal movement through air, water and space-time. Large or small, there is freedom to move about but at a cost. The spill-off of aetheric usage generates toxic gases, and as such clean manufactured atmosphere is encased within a atmospheric bubble whilst areas surrounding it are toxic to any living inhabitant.

And thus, we come to our final assignment: The development of a key art illustration for use in production. This entails developing an environment that will provide a lighting, mood, color and textural feel that can also serve as art direction to any artist at a glance (**Fig.01**).

The Guild City

The early forefathers decided the Guild City of D'Machinis, would be a hub of telecommunications in celebration of the telegraphic aether transmitter. As such, all forms would adopt the sinusoid as their main inspiration.

Establishing a key feature such as this allows for main and sub forms to reinforce one another from the shape of roofs, elevation of a park, construction of walls, curvature of streets (any excuse to add a curve as opposed to a straight line; this gives the observer a larger than life/ what is around the corner feeling towards the) and placement of public and local lights (how strong the light is).

In **Fig.01** we utilize the sinusoid to consist of a differential potential gradient. A height difference will allow for a counter current of energy potential/vs aetheric potential to be generated analogous to the movement of electrons within an electric current.

In addition, there is the design of the main housing unit vs a transmission/power generating unit on the other (**Fig.02**).

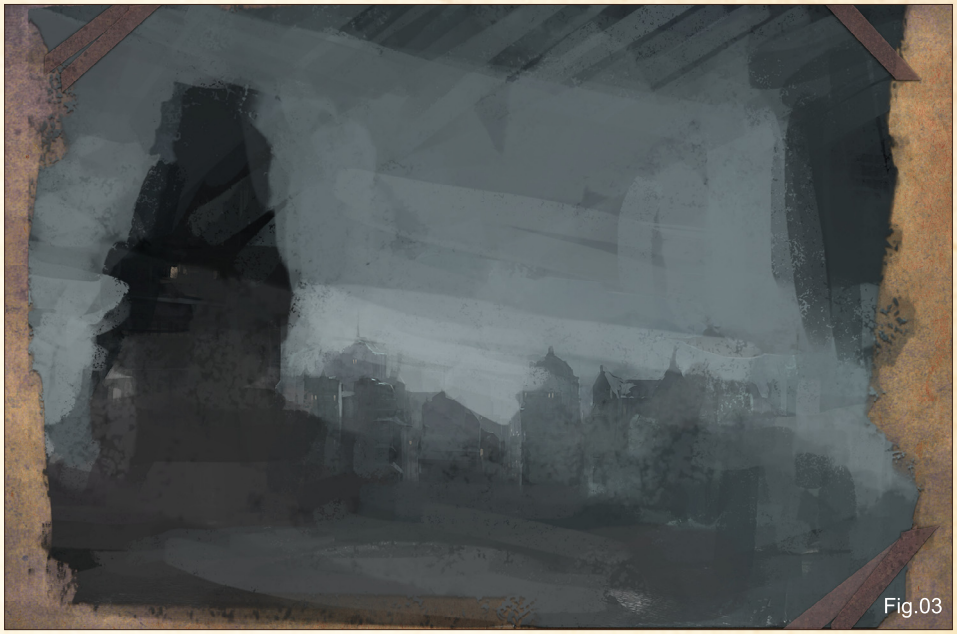


Fig.03

Taking this one step further we have the schematics of the timebridge, a bridge that spans the various cracks in time. Using a multiple of various sinusoids, these can accommodate for variations in a time phase shift (akin to a earthquake tremor) allowing for people travelling between different realms to remain wholly intact in mid tremor (without dissipating into a multitude of parts).

The Key Art - Sketch

No prior preliminary sketch has been produced in this instance (**Fig.03**). Instead, we will start the composition as if we were painting en plein aire, on site at the scene. So let's start by utilizing a simple two point perspective (2PP) - with one visible vanishing point (VP) at the lower 1/3rd of the canvas and a second invisible VP.

The initial composition (**Fig.03**) can consist of a few large shapes upon the canvas. Some artists choose to utilize the main color of the canvas as a backdrop, but in this case we're going to use a faint grey-blue wash to provide a monochromic cool feel. Having established this, we can move on to adding some secondary elements (sub forms) to reinforce the main shapes. Ensure that you do not go into too much detail as this stage (**Fig.04**).

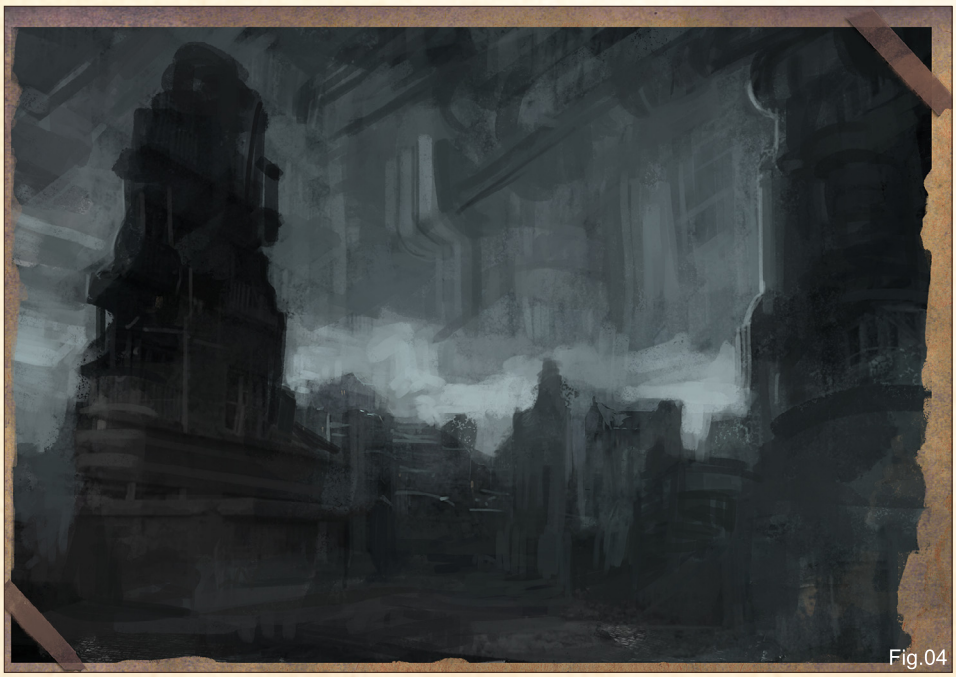


Fig.04

Design is fairly flexible and, by utilizing the sinusoidal art direction (see Fig.01), try to establish a good shot of one of the sinusoid structures. A faint suggestion of warmth, perhaps from a local light, can be added to accentuate the aspect of the near structure vs the backdrop. In addition, try and work in the faint suggestion of a generator tower (far right) whilst up above, the underside of the Timebridge can be hinted at.

I imagine the underside to consist of floating land pieces, unified by a variety of pipes, struts,

landings, gardens and vertical shafts that allow communication between each Realm and the administrative centre of D'Machinis.

The Key Art - Workup

Having developed the establishing shot, expand the canvas slightly to adopt a more generic landscape view. The offset of this is that we lose the intimate gesture and feeling of this establishing shot. So make a mental note that we may come back to this at a later stage and work more on this establishing shot, or perhaps crop the final image (**Fig.05**).

Fig.05

It's important not to be too fixed on any particular idea, although trying to change a worked up image later can involve a bit of time and painstaking repainting. The option to re-crop is akin to being a image taker with a photo facsimile device. If it looks and feels good, then its good to go in that direction.

Next up, we're going to look at the expanded canvas from grayscale towards a color wash. This is sliced into various segments to show the development from an establishing shot towards a coloured grayscale (**Fig.06**). In developing a grayscale image to a color image, the main challenge is to proceed in a methodical step-wise fashion utilizing thin washes of color that eventually build up towards a whole.

Fig.06

Fig.07

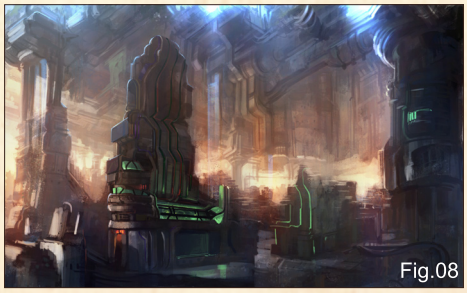


Fig.08

The Key Art - Lighting & Color

Working the illustration from large to smaller shapes, the next aspect to consider is that of local lighting.

Utilizing knowledge and the foundation established from the previous workshops, we can produce a dramatic shape by uplighting the buildings (**Fig.07**). This method is used in existing hotels and key buildings across various cities. In this instance, this steampunk metropolis is powered by aetheric gasses that take on a neon glow like appeal of a wide gamut of colors.

We can take this methodology further and expand various local lighting conditions across the landscape (**Fig.08**). Keep in mind the image is undergoing a lot of WIP reconstruction and as such will invariably look like a bombsite sometimes.

The Key Art - Foreground objects

We are now two-thirds through this illustration, and need to consider object interest, VFX,

atmosphere and global illumination/grading. Thus, let us tackle this in a step-wise fashion. Building upon the various steamtrams and transports of the previous Realms, there is not much more to go into the final design of the steam hover objects in this Realm. The designs are more of a exercise in plausible shapes and so are best blocked in as dark silhouettes (**Fig.09**).

The key to designing without much forethought is to have a good understanding of shapes and relationships. Thus in this regard, the use of repeating pipes, and cylindrical drums attached towards a bus/tram like shape are established.

Once the various shapes are developed, be mindful that you can color grade these objects in relation to the foreground, midground or background.

The Key Art - VFX & Final Grade

The next aspect that we can look at is the time of day.

Determining what the time of day is in a painting, can affect greatly the final finish. In our image, we render three different color modes: day, night and twilight (**Fig.10**).

- **Daylight** affords a fairly monochromic, reddish-orange feel.
- **Night** affords saturated strong colors due to the various neon lights employed
- **Twilight** affords the best of both worlds - it is fairly light, yet still with elements of strong, saturated neon local lights.

As we're going with a feeling of twilight, one we need to cover the illustration with painstaking local lights that fit the relative perspective and spatial relationship. For this, it is sometimes useful to paint upside down and flip the view horizontally so that the brain can analyze the image from different views (**Fig.11**).

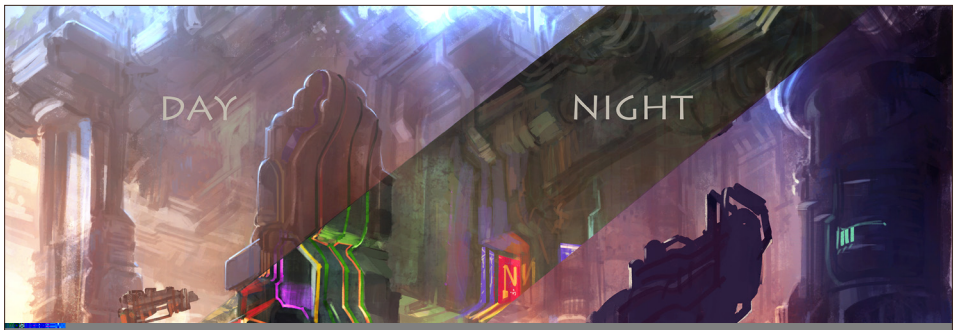


Fig.10

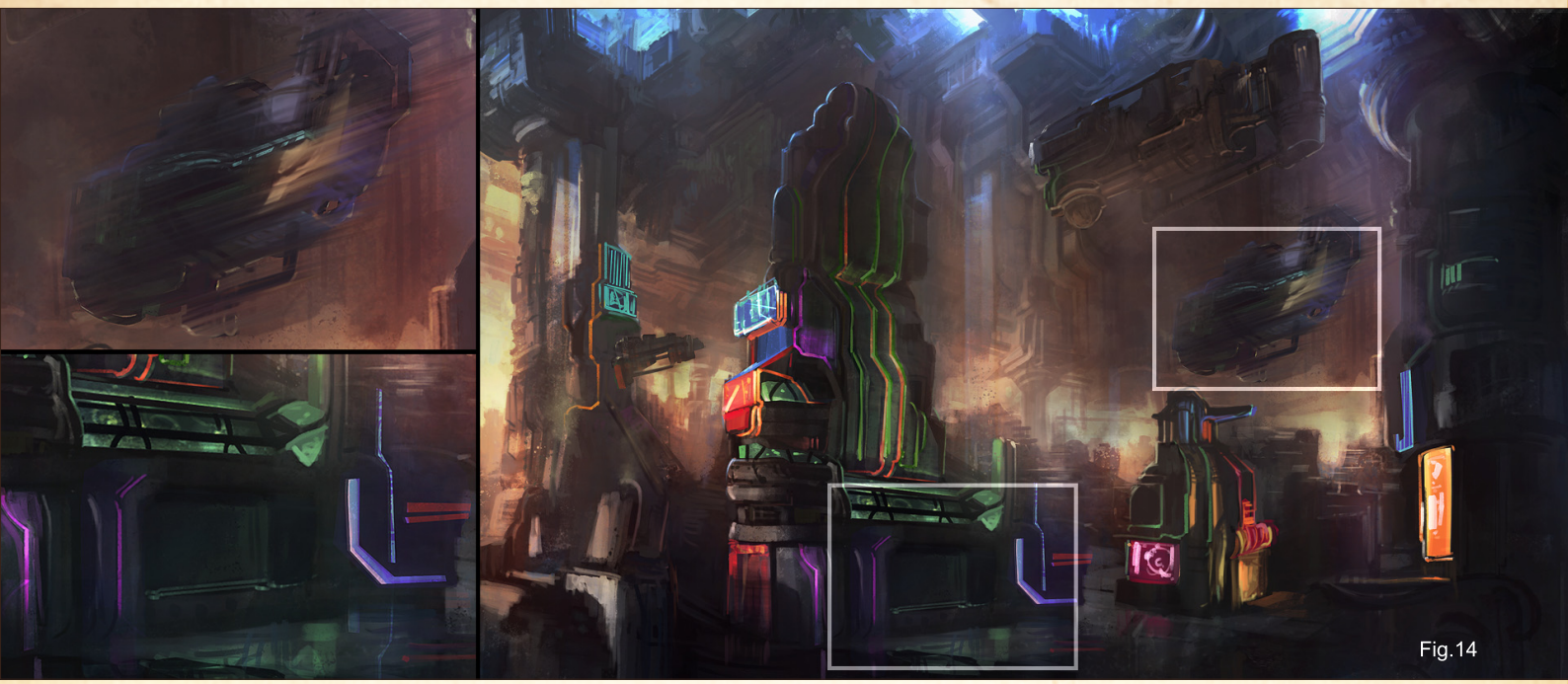


Fig.14

edges of some vehicles, or all that lovely design is obliterated)

5. Apply reflected lighting (from the local lights)

Having applied all these measures, there is that last 1% to tidy up, in terms of some focal details and some slight textural suggestions of various lit planes to suggest different surface materials. Lastly, take a few moments to apply some subtle color grades and faint suggestions of smoke, pollution and steam to allow for overlying elements and add depth to the overall image (**Fig.14**).

When there is no further changes that you feel are required to sell this image convincingly, it is best to stop and keep some element of energy, mood and atmosphere. It's time to call this done!

Sky-Blue, Sun-Red, & Deep-Blue

Global illumination and color lighting is a fascinating subject, and as a final summary let us discuss this slightly obscure subject matter (**Fig.15**).

In general, one finds that in a blue-green atmospheric planet irradiated by a blue-yellow star, the following would be generally true: that the sky is blue-violet and the daybreak/evening is golden red within the human visible spectrum of light. Cats, owls and E.T. might perceive a shorter or longer spectrum of visible light, and if they could describe to you what they saw, perhaps in their world the sky would be silver green and the oceans cerulean tinged with red...

Thus, light wavelengths are a bit more complicated and are only thus due to perceived visible light by the human eye. Blue (475nm) is

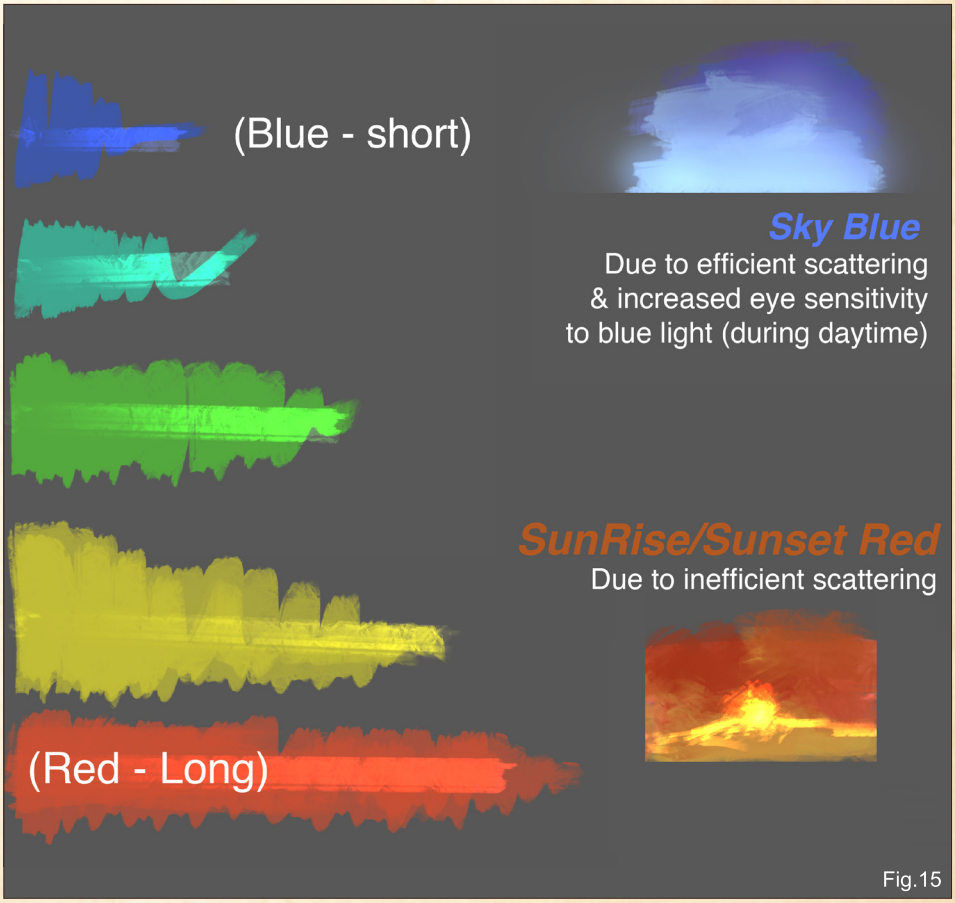


Fig.15

a shorter wavelength than red (longest 650nm) and violet is the shortest (450nm)

Thus, for global illumination it works as follows (but can be slightly confusing): During Daytime, the sky is blue primarily due to efficient scattering. In addition, our eyes are more sensitive to blue light, and the sun pumps out more blue light than violet. Whereas during sunrise/sunset, the red wavelength (longest) is less efficiently scattered. The longer wavelengths of red and orange effectively eliminate any blue/violet from the sky and result in a blood red-orange evening/sunrise.

Thus, if red light is longer, how is it that red is the first color to be lost underwater?

This can be explained by the amount of visible light absorbed underwater. Longer wavelengths are greatly absorbed underwater, and thus red and yellow wavelengths are lost initially whilst the shorter wavelengths of blue and violet are least readily absorbed. This also explains why whitish/pale objects underwater appear blue.

Lastly, at 10m depth about 1/4th of sunlight is available and almost non-existent at 100m depth or more. This can affect how one depicts an underwater image accordingly and requires local lighting to depict any colours below 100m depth.

End of D'Machinis Tour

Thus, we come to the end of our whirlwind tour of the various aspects of the Steampunk sub-genre; of which there are often new and evolving sub-categories that encompass the elements of Punk/Steampunk in their various incarnations in popular media.

Lastly, as with all things, there isn't any hard and fast rule to producing your own unique take on Steampunk. As long as it looks plausible (70:30 rule - 70% based in reality, 30% imagined), and certain aspects can be reasoned to have some function, you are onto a winning ticket.

So have fun! Steampunk your favourite vampire or retro fit your DeLorean of choice and perhaps be as bold as to retro fit your computer and everyday garments with subtle elements of steam as part of the Neo-Victorian culture. The world is your oyster; you can Steampunk that too.

I leave you with an observation: Everyone has within them the power of dreams and imagination. Therefore, I believe anyone can paint and draw, how well is entirely a different matter altogether. Nevertheless, draw to be the best, the best artist living in a generation; draw because it provides therapy and hours of fun; draw because it is a way of life, a lifestyle, and draw because perhaps the secret of the universe lies in those who can dream and bring worlds of imagining to life.

Chee Ming Wong

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Final

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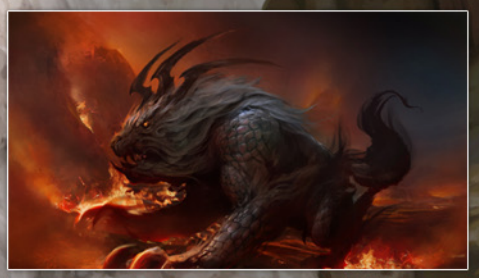

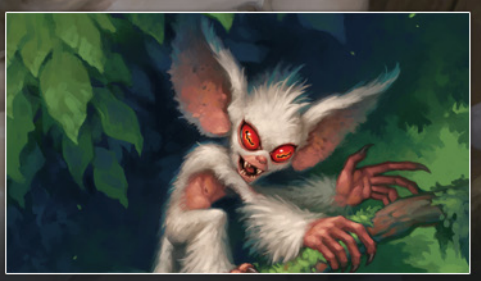

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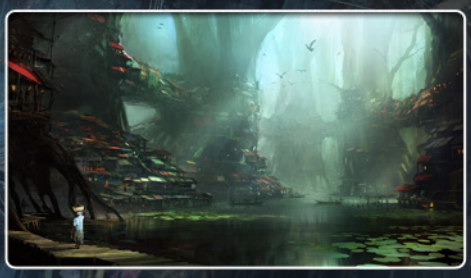

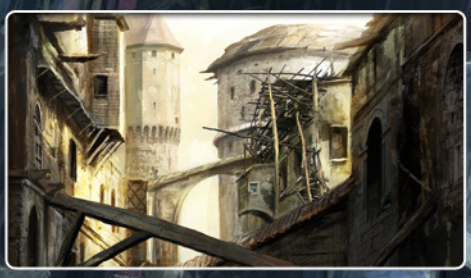

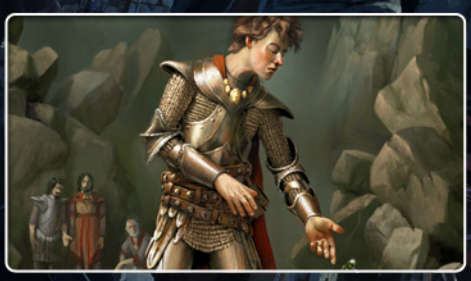

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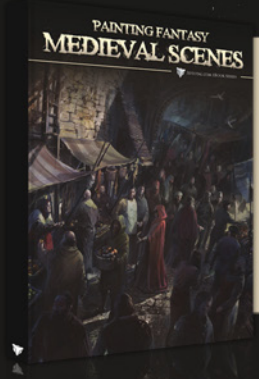

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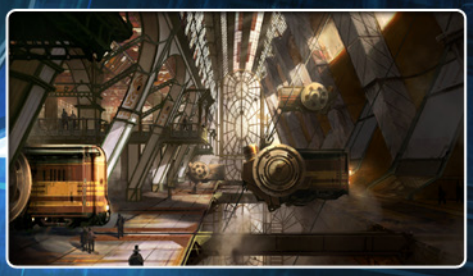

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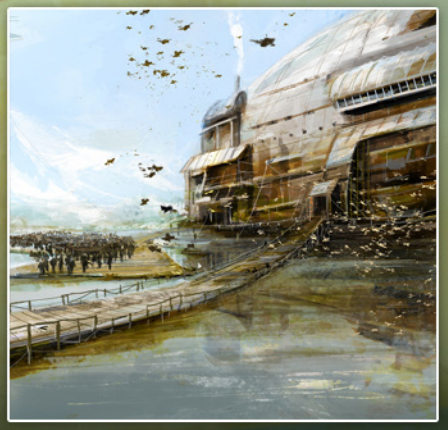

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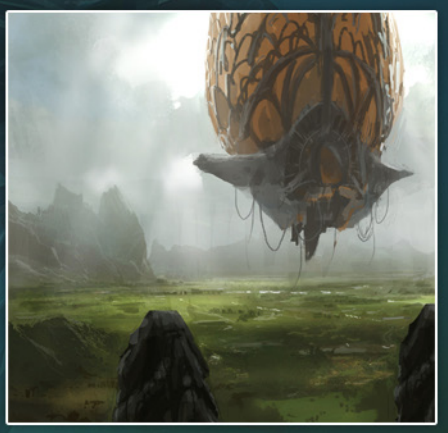

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